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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/060,398	02/01/2002	Takao Inoue	PU01-01115	9587

7590 09/24/2003

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EXAMINER	
ANYASO, UCHENDU O	
ART UNIT	PAPER NUMBER
2675	6

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/060,398	INOUE, TAKAO	
	Examiner	Art Unit	
	Uchendu O Anyaso	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. **Claims 1-5** are pending in this action.

Claim Rejections - 35 USC ' 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Hochstein* (U.S. 5,783,909) in view of *Oda* (U.S. 5,068,570).

Regarding **claims 1** and **5**, Hochstein teaches a circuit for maintaining the luminous intensity of a light emitting diode including at least one light emitting diode (LED) for producing a luminous intensity (column 2, lines 5-9).

Also, Hochstein teaches an adjustable power supply 16 that controls the voltage or current passing through a LEDs 12 wherein a variable pulse width modulated power supply 16 is employed such that changing the pulse width or the pulse rate (frequency) as a function of temperature will change the average current through the LED array (column 3, lines 9-18, figure 1 at 12, 16).

Furthermore, Hochstein teaches how the power supply 16 also acts as a driving circuit for generating a driving voltage according to the control voltage and supplying a forward current to the LEDs 12 (column 2, lines 11-13; column 3, lines 4-12, figure 1-3 at 16).

Furthermore, Hochstein teaches a switching device within the power supply 16 that is responsive to the luminous intensity signal for adjusting the electrical energy supplied by the pulses per unit of time to adjust the average of the current passing through the LED 12 to maintain the luminous intensity of the LED 12 at a predetermined level (column 3, lines 17-23, figure 1 at 12).

However, Hochstein does not teach a smoothing circuit for smoothing a control pulse to generate a control voltage. On the other hand, Oda teaches a lamp lighting circuit with an overload protection capability wherein upon lighting of the lamp 10, the resulting current causes the transformer 40 to apply a voltage to the rectifier and smoother circuit means (41, 42) in order to cause conduction through the transistor 43 (figure 2 at 41-43, column 8, lines 30-46).

Thus, it would have been obvious to a person of ordinary skill in the art to combine Hochstein and Oda inventions because while Hochstein teaches a circuit for maintaining the luminous intensity of a light emitting diode including at least one light emitting diode (LED) for producing a luminous intensity (column 2, lines 5-9), Oda teaches how to facilitate current and voltage through a circuit by means of a smoother circuit. The motivation for combining these inventions would have been to design a lighting circuit that is protected against overvoltage and overcurrent (column 1, lines 62-64).

Regarding **claim 2**, in further discussion of claim 1, Hochstein teaches a circuit for maintaining the luminous intensity of a light emitting diode including at least one light emitting diode (LED) for producing a luminous intensity (column 2, lines 5-9).

Also, Hochstein teaches an adjustable power supply 16 that controls the voltage or current passing through a LEDs 12 wherein a variable pulse width modulated power supply 16 is employed such that changing the pulse width or the pulse rate (frequency) as a function of temperature will change the average current through the LED array (column 3, lines 9-18, figure 1 at 12, 16).

Regarding **claims 3** and **4**, in further discussion of claim 1 and 2, Hochstein teaches a switching device within the power supply 16 that is responsive to the luminous intensity signal for adjusting the electrical energy supplied by the pulses per unit of time to adjust the average of the current passing through the LED 12 to maintain the luminous intensity of the LED 12 at a predetermined level (column 3, lines 17-23, figure 1 at 12).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,345,167 to *Hasegawa* for an automatically adjusting drive circuit for light emitting diode.

U.S. Patent 5,978,009 to *Fujikura* for a driving control circuit for an LED head.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Uchendu O. Anyaso

09/20/2003

DENNIS-DOON CHOW
PRIMARY EXAMINER